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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,631	03/18/2002	Yukitoshi Marutani	925-227	3720

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EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT PAPER NUMBER

2878

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/098,631	Applicant(s) MARUTANI ET AL.	
	Examiner Davienne Monbleau	Art Unit 2878	<i>DM</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.  
2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 12-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2 and 12-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 18 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on 12/9/03 has been entered. Claims 1 and 2 have been amended. Claims 3-11 have been canceled. New Claims 12-15 have been added. Claims 1, 2 and 12-15 are pending.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2 and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, the phrase “a step portion is formed between the stripe ridge and the protruding portion” is not clear. First, it is not clear what a “step portion” is and it is not defined in the specification or formally labeled in the drawings. Second, as written, this limitation is not structurally possible because the protruding portion is part of the stripe ridge (as recited in the claim). Thus, there cannot be a step portion between the stripe ridge and the protruding portion since the protruding portion is part of the stripe ridge.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 and 12-15, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Goto (US 6,037,189) in view of Kobayashi et al. (US 6,455,342) and Thompson (US 6,058,125). Regarding Claim 1, *Goto* teaches in Figure 1 a light-emitting element comprising a stripe ridge (5) having an n-type layer (3), an active layer (42), and a p-type layer (4), all of which are formed of semiconductor materials, and a substrate (1). *Goto* further teaches in Figure 1 that said stripe ridge (5) has a protruding portion (L) on the end face. *Goto* does not teach a shading film. *Kobayashi* teach in Figure 2 a semiconductor light emitting device comprising stripe ridge (12) with a shading film (13) covered over the entire surface except for the emission portion. (See also column 7 lines 55-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a shading film in *Goto*, as taught by *Kobayashi*, to protect the outer surfaces from oxidation and prolong the life of the laser, without inhibiting the emission of the light. *Goto* does not teach a step portion formed between the stripe ridge and the protruding portion. *Thompson* teaches in Figure 1 a semiconductor laser device comprising a stripe ridge portion (1 and 2) and a protruding portion (2), wherein a step portion is formed between the stripe ridge (1) and the protruding portion (2).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a step portion in *Goto*, as taught by *Thompson*, to achieve a desired beam control effect, such as expanding or narrowing the beam.

Regarding Claim 2, *Kobayashi* teach in Figure 2 that the semiconductor layers comprise nitride. (Also, the Applicant states in the specification on page 23 that the invention is not limited to nitride semiconductor. Thus, other suitable materials may be used.)

Regarding Claim 12, *Goto* teaches in column 7 lines 30-36 that said width of the stripe ridge (5) is 4  $\mu\text{m}$ .

Regarding Claim 13, *Goto* teaches in column 7 lines 30-36 that said width of the protruding portion (L) ranges from 0.8  $\mu\text{m}$  to 4  $\mu\text{m}$ .

Regarding Claim 14, *Kobayashi* teach in Figure 2 that the shading film (13) comprises  $\text{SiO}_2$ .

Regarding Claim 15, *Goto* teaches in Figure 1 and in column 7 lines 30-33 that said stripe ridge (5) is formed by etching and the protruding portion (L) is formed by etching to a depth that reaches the n-type layer (3). *Goto* does not specifically teach that said etching does not reach the active layer. However, lacking any criticality, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a specific etching method to prevent loss from the sides of the active layer.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2 and 12-15 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Danielle Monbleau*

DNM

  
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